

**Chapter 3 The Biosphere****Section 3–1 What Is Ecology? (pages 63–65)****Key Concepts**

- What different levels of organization do ecologists study?
- What methods are used to study ecology?

**Interactions and Interdependence (page 63)**

1. What is ecology? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. What does the biosphere contain? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Levels of Organization (page 64)**

3. Why do ecologists ask questions about events and organisms that range in complexity from an individual to the biosphere? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Complete the table about levels of organization.

**LEVELS OF ORGANIZATION**

Level	Definition
Species	
	A group of individuals that belong to the same species and live in the same area
Community	
Ecosystem	
	A group of ecosystems that have the same climate and dominant communities

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

5. What is the highest level of organization that ecologists study? \_\_\_\_\_  
\_\_\_\_\_

### **Ecological Methods (page 65)**

6. What are the three basic approaches scientists use to conduct modern ecological research?  
a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_

7. Why might an ecologist set up an artificial environment in a laboratory?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Why are many ecological phenomena difficult to study? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Why do ecologists make models? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Is the following sentence true or false? An ecological model may consist of a mathematical formula. \_\_\_\_\_